

Possible sharing formula for new export capacity

Assume that current exports are limited to 11 kcfs

Assume that future export capacity will peak at 21 kcfs (including diversions to Delta storage)

Let

Q = total export pumping level (cfs)
 E = volume of exports allocated to EWA
 P = volume of exports allocated to the Projects

Assume that

$d(E)/d(Q) = 2kQ$ where $2k$ is a constant to be determined later

Subject to

$E = 0$ when $Q = 11$ kcfs
 $d(E)/d(Q) = 1$ when $Q = 21$ kcfs

Then, integrating, and applying the boundary conditions we have

$E = (Q-11)^2 / 20$
 $d(E)/d(Q) = (Q-11)/10$
 $P = Q - E$

This give us the following numbers

Total Pumping (kcfs)	Project Share (kcfs)	EWA Share (kcfs)	
1	1	0	
2	2	0	
3	3	0	
4	4	0	
5	5	0	
6	6	0	
7	7	0	
8	8	0	
9	9	0	
10	10	0	
11	11	0	
12	11.95	0.05	
13	12.8	0.2	
14	13.55	0.45	
15	14.2	0.8	
16	14.75	1.25	
17	15.2	1.8	
18	15.55	2.45	
19	15.8	3.2	
20	15.95	4.05	
21	16	5	

Thus, from 11 kcfs to about 15 kcfs, the Projects receive most of the benefits of extra pumping
From 17 kcfs to 21 kcfs, the EWA receives most of the benefits of new pumping

As an example, if the Projects were entitled to pump at 21 kcfs, 5 kcfs of that water would belong to the EWA. If the EWA wished to reduce the pumping level to 15 kcfs (a drop of 6 kcfs), it would now receive only .8 kcfs and would need to compensate the Projects only an additional 1.8 kcfs. That is, most of the reduction would si come out of reduced EWA credits, not out of existing EWA assets.